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(57) Abstract: An instrument for measuring the size and characteristics of a particles contained in a sample of particles. A particle sample is introduced into a sample chamber. The sample particles are subjected to centrifugal forces so that large particles travel in the sample chamber at velocities greater than small particles. Light is shown upon the particles as they travel in the sample chamber. The particles diffract the light. The diffracted light is then received by detectors that convert the diffracted light into corresponding electronic signals. The electronic signals are analyzed to determine the size and characteristics of the particles that caused the diffracted light.